

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

1       1. (Currently Amended) A method for use in a wellbore, comprising:  
2           causing creation of tunnels in surrounding formation of a well interval;  
3           applying treatment fluid to the tunnels; and  
4           creating a local transient underbalance condition in the well interval after creation  
5       of the tunnels in the formation and application of the treatment fluids,  
6           wherein creating the local transient underbalance condition in the well interval is  
7       accomplished by using at least one of:

8           opening at least one port to a sealed container containing a low pressure,  
9       the sealed container lowered into the wellbore by a carrier line;  
10           communicating the wellbore interval with a choke line containing low  
11       density fluid, the choke line being associated with subsea well equipment; and  
12           providing a chamber of a perforating gun as a sink for fluids from the  
13       wellbore interval.

1       2. (Original) The method of claim 1, wherein creating the local transient  
2       underbalance condition causes a surge of fluid flow out of the tunnels to clean the tunnels.

1       3. (Original) The method of claim 1, wherein causing the creation of tunnels  
2       comprises firing a perforating gun.

1       4. (Original) The method of claim 1, wherein applying the treatment fluid  
2       comprises applying a matrix treatment fluid.

1       5. (Original) The method of claim 1, wherein applying the treatment fluid  
2       comprises applying at least one of acid, chelant, solvent, surfactant, brine, oil, and enzyme.

1       6. (Cancelled)

1           7. (Original) The method of claim 1, wherein creation of the local transient  
2 underbalance causes performance of a surge operation to clean the tunnels, the method further  
3 comprising performing a fracture operation after the surge operation.

1           8. (Original) The method of claim 7, further comprising performing a gravel pack  
2 operation after the fracture operation.

1           9. (Original) The method of claim 1, wherein creating the local transient  
2 underbalance causes performance of a surge operation to clean the tunnels, the method further  
3 comprising performing a gravel pack operation.

1           10. (Original) The method of claim 1, wherein applying the treatment fluid  
2 comprises activating an applicator tool to apply the treatment fluid.

1           11. (Original) The method of claim 10, wherein activating the applicator tool  
2 comprises opening at least one port of the applicator tool.

1           12. (Original) The method of claim 1, wherein applying the treatment fluid  
2 comprises applying the treatment fluid in presence of an overbalance condition.

1           13. (Currently Amended) ~~The method of claim 12, further comprising A method for~~  
2 use in a wellbore, comprising:  
3           causing creation of tunnels in surrounding formation of a well interval;  
4           applying treatment fluid to the tunnels;  
5           creating a local transient underbalance condition in the well interval after creation  
6           of the tunnels in the formation and application of the treatment fluid,  
7           wherein applying the treatment fluid comprises applying the treatment fluid in  
8           presence of an overbalance condition; and  
9           activating a perforating gun to create the overbalance condition, the overbalance  
10 condition comprising a transient overbalance condition.

1           14. (Original) The method of claim 13, wherein activating the perforating gun  
2 comprises activating a tubing conveyed perforating gun.

1           15. (Original) The method of claim 13, wherein applying the treatment fluid  
2 comprises applying an acid to flow into the tunnels due to the presence of the overbalance  
3 condition.

1           16. (Original) The method of claim 15, wherein applying the acid comprises flowing  
2 a substantially equal amount of acid into each of the tunnels.

1           17. (Original) The method of claim 1, wherein applying the treatment fluid  
2 comprises applying a brine to reduce surface tension within the tunnels.

1           18. (Original) The method of claim 1, wherein applying the treatment fluid  
2 comprises applying a surfactant to enhance the transport of debris out of the tunnels.

1           19. (Original) The method of claim 1, wherein applying the treatment fluid  
2 comprises applying a fluid to enhance cleanup of the tunnels.

1           20. (Original) The method of claim 1, further comprising applying a sequence of  
2 pressure conditions in the wellbore interval, the sequence of pressure conditions comprising the  
3 transient underbalance condition and other pressure conditions.

1           21. (Original) The method of claim 20, wherein applying the other pressure  
2 conditions comprises applying at least one of an underbalance condition, overbalance condition,  
3 and balanced condition.

1           22. – 37. (Cancelled)

1       38. (New) A method for use in a wellbore, comprising:  
2           causing creation of tunnels in surrounding formation of a well interval;  
3           applying treatment fluid to the tunnels; and  
4           creating a local transient underbalance condition in the well interval after creation  
5       of the tunnels in the formation and application of the treatment fluids,  
6           wherein applying the treatment fluid comprises controlling a rate of application of  
7       the treatment fluid using a time release mechanism that is part of an applicator tool lowered into  
8       the wellbore.